

IN THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1(Currently Amended). A method for providing contention free transmission during a contention period in a shared communications medium comprising:

- (1) capturing the shared communications medium by transmitting a frame prior to the expiration of a point coordination function (PCF) interframe space (PIFS) period after the shared communications medium becomes idle;
- (2) permitting a recipient to transmit; and
- (3) recapturing the shared communications medium after the recipient transmits.

2(Original). The method of claim 1, further comprises the step of (0) waiting for the shared communications medium to become idle prior to capturing the shared communications medium.

3(Currently Amended). The method of claim 1, wherein the ~~capturing step~~ comprises frame is transmitted by a hybrid controller ~~transmitting a frame.~~

4. Canceled.

5(Original). The method of claim 3, wherein the frame is transmitted prior to the expiration of a short interframe space (SIFS) period after the shared communications medium becomes idle.

6(Original). The method of claim 3, wherein the frame is a data frame.

7(Original). The method of claim 3, wherein the frame is a control frame.

8(Original). The method of claim 3, wherein the frame is a combination data and control frame.

9(Original). The method of claim 3, further comprising the step of (8) repeating steps (1)-(3) after the shared communications medium has been idle for a PIFS period.

10(Original). The method of claim 7, wherein the shared communications medium is shared by a plurality of stations, and wherein the control frame contains a duration specifying how long the recipient can transmit, and wherein the recipient may transmit frames to any station as long as the recipient can complete the transmission within the duration specified by the control frame.

11(Original). The method of claim 10, wherein a station receiving a frame from the recipient may transmit frames to any station as long as the station can complete the transmission within the duration specified by the control frame.

12(Original). The method of claim 11, wherein if a station receiving a frame has previously received a frame within the duration specified by the control frame, then the data transmission terminates, even if sufficient time remains in the duration specified by the control frame to transmit additional frames.

13(Original). The method of claim 1, wherein the permitting step comprises:
transmitting a frame by the recipient; and
transmitting a frame by a hybrid controller.

14(Original). The method of claim 13, wherein there are multiple traffic categories, and wherein the recipient may transmit a frame from any traffic category as long as the recipient can transmit the frame within a duration specified by a control frame.

15(Original). The method of claim 13, wherein there are multiple traffic categories, and wherein the recipient may transmit multiple data frames of traffic from any traffic category as long as the recipient can transmit the frame within a duration specified by a control frame.

16(Original). The method of claim 13, wherein the hybrid controller may begin transmitting a frame one SIFS period after the recipient finishes transmitting.

17(Original). The method of claim 1, wherein the shared communications medium is shared by a plurality of recipients, and the method further comprises the step of repeating steps (2)-(3) until each recipient has transmitted all of its frames.

18(Original). The method of claim 1, further comprising the step of repeating steps (2)-(3) until the contention period ends.

19(Original). The method of claim 1, wherein the shared communications medium is shared by a plurality of recipients, and further comprising the step of (4) transmitting control frames to a second recipient after a first recipient has finished transmitting, even if the first recipient has additional frames to transmit.

20(Original). The method of claim 19, further comprising the step of (5) repeating steps (2)-(4) until each recipient has transmitted all of its frames.

21(Original). The method of claim 1, wherein a station becomes a recipient by sending a control frame to a hybrid controller.

22(Original). The method of claim 21, wherein upon receipt of the control frame from the station, the hybrid controller places the station into a list of recipients.

23(Original). The method of claim 1, further comprises the step of (6) releasing the communications medium after the contention-free transmission ends.

24(Original). The method of claim 1, further comprises the step of (7) transmitting frames using contention access after the contention-free transmission ends.

25(Original). The method of claim 24, wherein a hybrid controller coordinates the contention access by updating and broadcasting contention access parameters for use by contenting stations in contention communications.

26(Original). The method of claim 25, wherein the updating and broadcasting are performed at fixed time intervals.

27(Original). The method of claim 25, wherein the updating and broadcasting are performed when specific network performance metrics fall outside specified ranges.

28-37. Canceled.

38(New). A communication device comprising:
means for capturing the shared communications medium by transmitting a first frame prior to the expiration of a point coordination function (PCF) interframe space (PIFS) period after the shared communications medium becomes idle;
means for permitting a recipient to transmit; and
means for recapturing the shared communications medium after the recipient transmits.

39(New). A device according to claim 38, wherein the frame is transmitted prior to the expiration of a short interframe space (SIFS) period after the shared communications medium becomes idle.

40(New). A device according to claim 38, further comprising:
means for transmitting a second frame one SIFS period after the recipient finishes transmitting.